IN THE SPECIFICATION

Please amend the specification as follows:

Please delete the first paragraph on page 1.

Insert the following paragraph on a new line after the title:

This application is a § 371 application of PCT/EP03/012112, which claims priority from DE 10253614.7, filed November 15, 2002.

First paragraph, following the title:

BACKGROUND

The invention relates to a method for operating an internal combustion engine of a vehicle, in particular a motor vehicle ~~as claimed in the preamble of claim 1~~.

Insert the following on a new line before the first full paragraph of page 5:

SUMMARY OF THE INVENTION

Please delete the second full paragraph of page 5.

Last paragraph of page 5:

~~As claimed in claim 1, the~~ The engine control device of the invention blocks switching into the lean operating range if the additional amount of fuel consumption for discharges in a certain, definable evaluation interval which extends over several lean operating phases is greater than or equal to the reduced amount of fuel consumption by lean operation in this evaluation interval. Furthermore the engine control device enables lean operation and thus switching between the lean operating range and the homogeneous operating range if the additional amount of fuel consumption for discharges in the evaluation interval is smaller than the reduced amount of fuel consumption by lean operation in this evaluation interval. The reduced amount of fuel consumption is determined as a function of the raw mass flow value of the nitrogen oxide averaged over the evaluation interval, as a function of the amount of fuel saved which has been averaged over the evaluation time interval in the lean operating

phases which occur in the evaluation interval compared to the homogeneous operating range phases, and as a function of the time between two torque requirements which exceed a definable load boundary value and/or rpm boundary value and which cause departure from the lean operating range, which time has been averaged over the evaluation interval. Furthermore, the additional amount of fuel consumption is determined as a function of a storage catalyst charging state averaged over the evaluation interval.

Paragraph bridging pages 6 and 7 to the first full paragraph of page 9:

According to [[the]] an especially preferred process guidance ~~as claimed in claim 2~~, provision is made such that the additional amount of fuel consumption which is caused by the rich operating phases in the evaluation interval is computed as the sum of a first amount of fuel which is required for discharge of the oxygen reservoir and a second amount of fuel which is required for discharge of the nitrogen oxide reservoir. The first amount of fuel, i.e., the amount of fuel for discharging the oxygen reservoir, is thus more or less constant per lean operating phase, while the second amount of fuel is mainly a function of the raw nitrogen oxide emissions during the lean time, so that the second amount of fuel is averaged over the evaluation interval, by which the additional amount of fuel consumption can be easily determined as a function of the storage catalyst charging state averaged over the evaluation interval. Since lean operation is run with an excess of oxygen, the oxygen reservoir of the nitrogen oxide storage catalyst is very quickly completely charged so that the oxygen charging of the nitrogen oxide storage catalysts over the lean phase can always be regarded as more or less constant. The nitrogen oxide charging of the nitrogen oxide storage catalyst is conversely mainly a function of the lean time and optionally also of the raw nitrogen oxide mass flow. For example, for regeneration of 1 g of oxygen an amount of fuel of approximately 0.23 g is necessary, while for regeneration of 1 g of nitrogen dioxide approximately 0.15 g of fuel are necessary.

~~As claimed in claim 3,~~ A provision [[is]] may also be made such that the first lean time is computed from the quotient of the current nitrogen oxide storage capacity of the nitrogen oxide storage catalyst and the averaged raw nitrogen oxide mass flow value. The averaged time between two torque requirements which exceed a definable load boundary value and/or rpm boundary value and which cause departure from the lean operating range as the second lean time is compared to the first lean time, the minimum or the shorter of the two lean times then being multiplied by the averaged

amount of fuel saved in the evaluation interval. In this way, the reduced amount of fuel consumption in the evaluation interval can be determined especially easily. With this process guidance an especially simple and reliable prediction of the driving dynamics and thus also a conclusion about future driving behavior are possible, so that optimized operation of the internal combustion engine, especially optimization of the lean operating phases, becomes possible.

By special preference~~, as claimed in claim 4,~~ the current nitrogen oxide storage capacity amount of the nitrogen oxide storage catalyst can be determined as a function of the temperature and/or the ageing state and/or sulfurization.

Specifically~~, as claimed in claim 5,~~ provision [[is]] may be made such that the nitrogen oxide mass flow upstream from the nitrogen oxide storage catalyst and/or the nitrogen oxide mass flow downstream from the nitrogen oxide storage catalyst are each integrated over the same time interval, the switching operating point being determined as a function of the instantaneous operating temperature at the instant of switching to establish the switching instant from the storage phase to the discharge phase and thus from the lean operating range to the rich operating range at least from the integral value of the nitrogen oxide mass flow upstream and/or downstream from the storage catalyst and/or the switching instant when a definable discharge switching condition is satisfied in the first stage for determination of the degree of ageing of the storage catalyst. Then the respective switching operating point in a second stage for determining the degree of ageing of the storage catalyst is compared to the definable storage catalyst capacity field which runs over a temperature window, which is optimized especially with respect to fuel consumption, and which is formed by a plurality of individual operating points for a new and an aged storage catalyst. In the process a switching operating point which lies within the storage catalyst capacity field does not constitute a failure to reach the minimum nitrogen oxide storage capacity, but the change relative to the previous operating point as a measure of the ageing of the storage catalyst. A switching operating point which departs from the storage catalyst capacity field conversely constitutes a failure to reach the minimum nitrogen oxide storage capacity. With this procedure current detection of the value of the nitrogen oxide storage capacity of the nitrogen oxide storage catalyst can thus be determined especially easily depending on the operating point with consideration of the degree of ageing and/or sulfurization of the nitrogen oxide storage catalyst.

~~As claimed in claim 6,~~ A provision [[is]] may be made especially preferably here that to establish the switching instant from the storage phase to the discharge phase, the relative nitrogen oxide slip as the difference between the nitrogen oxide mass flow which has flowed into the nitrogen oxide storage catalyst and the nitrogen oxide mass flow which has flowed out of the nitrogen oxide storage catalyst is determined relative to the storage time, such that the quotient of the integral values of the nitrogen oxide mass flow upstream and downstream from the nitrogen oxide storage catalyst is moreover brought into a relative relationship to the definable degree of conversion of the nitrogen oxide which is derived from the exhaust gas boundary value, so that when this definable switching condition is present switching from the storage phase to the discharge phase is carried out at the switching instant which has been optimized with respect to fuel consumption and storage potential.

~~As claimed in claim 7,~~ A provision furthermore [[is]] may be made such that the storage catalyst capacity field is limited relative to the temperature window on the one hand by the boundary line for a new storage catalyst and on the other hand by the boundary line for an aged storage catalyst which represents the boundary ageing state. In this instance the temperature window comprises preferably temperature values between approximately 200°C and approximately 450°C.

BRIEF DESCRIPTION OF THE DRAWINGS

Insert the following on a new line after the fourth full paragraph of page 9:

DETAILED DESCRIPTION OF THE INVENTION